


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 10037PCT/EXI	FOR FURTHER ACTION		See Form PCT/PEA416
International application No. PCT/GB2004/001432	International filing date (day/month/year) 01.04.2004	Priority date (day/month/year) 03.04.2003	
International Patent Classification (IPC) or national classification and IPC B23K26/04			
Applicant EXITECH LIMITED			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 01.11.2004		Date of completion of this report 11.03.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Aran, D Telephone No. +31 70 340-2331	



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/GB2004/001432

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1-16 as originally filed

Claims, Numbers

1-10 as originally filed

11-13 received on 08.07.2004 with letter of 07.07.2004

Drawings, Sheets

1/7-7/7 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/001432

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4, 5, 10, 11
	No: Claims	1-3, 6-9, 12, 13
Inventive step (IS)	Yes: Claims	4, 5, 10, 11
	No: Claims	1-3, 6-9, 12, 13
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : US 2002/125231 A1 (CAHILL STEVEN P ET AL) 12 September 2002
(2002-09-12)

D2: US-A-5 811 754 (SUGITATSU ATSUSHI ET AL) 22 September 1998 (1998-09-22)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (the references in parenthesis applying to this document):

a method for laser micro-machining, by means of a laser, a workpiece of the type described¹ comprising² the steps of: locating the workpiece on a carrier (6, 7) forming part of a transport system whereby the carrier can be displaced along a path parallel to an X-axis of the workpiece, a Y-axis lying transverse the path (see par. [0087]); focussing an image generated by means of an output beam from the laser at a working datum position³ defined relative to the path which path is established by means of the transport system to traverse the first datum position⁴ (see par. [0087]); defining a plane⁵ by the X- and Y-axis lying substantially perpendicular to the output beam (see par. [0086], last sentence); and displacing the workpiece along the path by way of the transport system so as to enable the workpiece to be subject to micro-machining by way of the laser (see par. [0087]) including the steps of:

maintaining distance between the datum position and a current first

¹ Since the expression "**of the type described**" does not give any clue upon which type is referred to, it is assumed that any type fits in the definition (Art. 6, PCT)

² "Comprising" is used instead of "characterised" according to description.

³ In the present case, the focus point.

⁴ Not defined (Art. 6 PCT)

⁵ Rephrasing to make the statement step-like (Art. 6 PCT)

surface position of the workpiece in the vicinity of the datum position⁶ (see par. [0086]); and

varying the working datum position to accord with local variations in thickness of the workpiece so that the working datum position is maintained at a fixed distance relative to a surface of the workpiece (see par. [0089]).

3 INDEPENDENT CLAIM 7

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 7 is not new in the sense of Article 33(2) PCT.

Document D2 discloses (the references in parenthesis applying to this document):

an apparatus for laser micro-machining, by means of a laser, a workpiece of the type described⁷ comprising: a carrier (6) forming part of a transport system whereby the carrier can be displaced along a path parallel to an X-axis of the workpiece, a Y-axis lying transverse the path, and a Z-axis lying transverse to the path (see col. 15, l. 3-9); means⁸ (5) focussing an image generated by means of an output beam from the laser at a working datum position⁹ defined relative to the path which path is established by means of the transport system to traverse the first datum position¹⁰; a plane defined by the X- and Y-axis lying substantially perpendicular to the output beam (see col. 15, l. 3-5)); and drive means for causing the workpiece to be displaced along the path by way of the transport system so as to enable the workpiece to be subject to micro-machining by way of the laser (see col. 15, l. 3-9)

⁶ in the present case, the focus position

⁷ Since the expression "**of the type described**" does not give any clue upon which type is referred to, it is assumed that any type fits in the definition (Art. 6, PCT)

⁸ Added to make the sentence an apparatus part (Art. 6, PCT)

⁹ in the present case, the focus position

¹⁰ Not defined (Art. 6 PCT)

including¹¹:

maintaining means for regulating distance between the datum position and a current first surface position of the workpiece in the vicinity of the datum position¹² (see col. 17, l. 8-18); and

focus adjusting means enabling the working datum position to accord with local variations in thickness of the workpiece so that the working datum position is maintained at a fixed distance relative to a surface of the workpiece (see col. 17, l. 48-55) and/or

providing a carrier and transport system enabling the workpiece to be displaced along the path with the plane of the workpiece defined by the X-axis and the Y-axis either vertical or at some other angle to the horizontal.¹³

4 INDEPENDENT CLAIMS 12 and 13

- 4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 12, 13 is not new in the sense of Article 33(2) PCT because they don't contain any technical subject matter that constitutes a difference to the product already known from D1 resp. D2.

5 DEPENDENT CLAIMS 2, 3, 6, 8, 9

Dependent claims 2, 3, 6, 8, 9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

5 DEPENDENT CLAIMS 4, 10

The combination of the features of dependent claims 4, 10 are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows:

no document discloses a body member riding on a fluid cushion coupled to the focussing lens during micro-machining.

¹¹ "characterised by the steps" cannot fit in a method claim (art. 6, PCT) it is replaced by "including"

¹² id. note 6

¹³ In the present case the "angle" is equal to 0°.

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/GB2004/001432

6 DEPENDENT CLAIMS 5 and 11

Dependent claim 5 resp. 11 has been understood as depending on claim 4 resp.
10.